UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

APR 2 3 1979

FCPF:FDL
40-3453
SUA-917

Atlas Minerals
ATTN: Mr. Al Dearth
1050 17th Street
Suite 2506
Denver, Colorado 80265

Gentlemen:

Enclosed is Source Material License No. SUA-917. This license is being renewed subsequent to the notice of availability by the Environmental Protection Agency on February 5, 1979, of the Nuclear Regulatory Commission's Final Environmental Statement (FES) related to the operation of your uranium mill.

Please note that your license contains additional conditions which were discussed between your Mr. A. E. Dearth and Mr. F. D. Lomax of my staff.

As you are aware, the Commission has initiated the preparation of a Generic Environmental Impact Statement (GEIS) on uranium milling. Please be advised that the conclusions of this GEIS, and any related rule making, may result in new requirements concerning your mill waste generating processes and tailings management practices.

FOR THE NUCLEAR REGULATORY COMMISSION

Ross A. Scarano, Section Leader
New Facilities Section
Uranium Recovery Licensing Branch
Division of Waste Management

Enclosure:
SUA-917

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Atlas Corporation	3. License number SUA-917
2. Atlas Minerals Division P.O. Box 1207 Moab, Utah 84532	4. Expiration date April 30, 1984
	5. Docket or Reference No. 40-3453

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
Natural Uranium	Any	Unlimited

9. The licensee is hereby authorized to possess byproduct material in the form of uranium waste tailings generated by the licensee's milling operations authorized under SUA-917.

10. Authorized Place of Use: The licensee's uranium milling facility located at Moab, Utah.

11. The average mill throughput shall not exceed 850 MT of barreled U_3O_8 per year.

12. For use in accordance with statements representations and conditions contained in Sections 4, 5, and 7 of the licensee's application dated November 18 1974 and supplements dated August 15 and 28, 1975. Whenever the word "will" is used in the above mentioned sections, it shall denote a requirement.

13. Any changes in the effluent control systems, as described in the licensees submittal dated April 20, 1978 shall require approval by the USNRC in the form of a license amendment.

14. The licensee shall prevent release of airborne particulates from the tailings pile by maintaining water cover over the tailings. If any tailings are not covered by standing water, the applicant shall take measures to minimize dispersal of blowing tailings. The effectiveness of the measures shall be evaluated weekly by means of a documented tailings area inspection.

15. The tailings impoundment area shall not be expanded by raising the height of the present dam or constructing a new dam without specific prior approval of the NRC obtained through application for amendment of this license.

16. The licensee shall within three years of the renewal date of this license complete the installation of riprap protection for the tailings dam along Moab Wash. The design must be submitted for NRC review and concurrence prior to January 1, 1980.

    The following criteria shall be incorporated in the riprap design.

    a) upstream of section B (as shown in Exhibit H of the licensee's submittal of October 3, 1978).

Velocity of Flow	14 feet per second
Depth of Flow	8 feet
Factor of Safety	1.5
Freeboard	1 foot

    b) downstream of section B

Flow velocity	17 feet per second
Depth of Flow	10 feet
Factor of Safety	1.0
Freeboard	1 foot

17. Mill tailings other than samples for research shall not be transferred from the site without specific prior approval of the NRC obtained through application for amendment of this license. The licensee shall maintain a permanent record of all transfers made under the provisions of this condition.

18. At the end of milling operations or when settling pond use is discontinued, the licensee shall remove all sediment from ponds where radium has been precipitated and transport it to the tailings ponds. The sediment shall be kept wet or other means shall be used to eliminate release of dust during pond evaporation, sediment removal, and transportation.

19. Notwithstanding the provisions of Section 4.2 of the licensees submittals specified in condition 12 of this License, the licensee shall operate the tailings impoundment system in accordance with statements representations and conditions specified in the licensee's application and enclosure of July 11, 1978.

20. The licensee is hereby exempted from the requirements of Section 20.203(e)(2) of 10 CFR 20 for areas within the mill, provided that all entrances to the mill are conspicuously posted in accordance with Section 20.203(e)(2) and with words, "Any area within this mill may contain radioactive material."

21. The licensee shall conduct and document at least one inspection of the tailings embankment per day and shall immediately notify Region IV, USNRC, Office of Inspection and Enforcement, Arlington, Texas, by telephone and telegraph of any failure in the dam retention system or tailings discharge system which results in a release of radioactive material from the tailings system. This requirement is in addition to the requirements of 10 CFR 20.

22. The licensee shall reclaim the Atlas Mill tailings disposal area in accordance with Section 3.2.5, as modified by the staff in alternative 2 of Section 10.3.2, of the "Final Environmental Statement Related to Operation of Moab Uranium Mill" (NUREG-0453, dated January 1979). In addition, surety arrangements covering the tailings reclamation costs shall be maintained.

23. The licensee shall decommission the Atlas Mill site in accordance with Section 4.4.1 of the licensee's revised Safety Analysis Report of August 28, 1975 and Annex C, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated November 1976 (enclosed). A detailed decommissioning plan shall be submitted for NRC review and concurrence at least 12 months prior to planned shut down of mill operations. In addition, surety arrangements covering the general mill site decommissioning costs shall be maintained.

24. The licensee shall submit to the U.S. NRC, Washington, D.C. 20555 a copy of the Surety Arrangements with the State of Utah, covering mill decommissioning and mill site and tailings area reclamation as well as supporting documentation showing a breakdown of the costs associated with reclaiming the mill and the tailings area within six months of the issuance of this license renewal. The licensee will send a copy of any future revision to these surety arrangements to the same office within 30 days of the revision.

The NRC will not terminate the license until final reclamation meets Utah standards and the surety bond is released according to state regulations.

25. Notwithstanding the provisions of Section 5.5.4 of the licensee's revised Safety Analysis Report of August 28, 1975, the licensee shall comply with the following:

    a) The licensee shall conduct at least bi-weekly surface contamination surveys (both smear and total contamination) in all eating areas, change rooms, control rooms, and administrative offices.

    b) The operating Mill Foreman shall conduct and document a daily visual surveillance of all mill areas to insure proper implementation of good radiation safety practices, including good clean-up practices to minimize unnecessary surface buildup of radioactive particulates.

    c) If contamination levels in the lunch rooms, shower rooms, change rooms, or offices exceed the values in the attached Annex C, dated November, 1976, the area shall be decontaminated immediately and a study performed to determine the cause of buildup and corrective measures taken to prevent recurrence.

    d) Prior to leaving the restricted area, all mill employees shall either shower or monitor themselves after changing clothes. If clothing is not changed then clothing shall also be monitored. An alpha radiation survey meter shall be available at the exit to the change room. In addition, the licensee shall perform spot surveys for alpha contamination at least quarterly on workers leaving the plant. Alpha contamination on skin or clothes greater than 1,000 dpm/100 cm^2 shall be cause for additional showering or decontamination and an investigation by radiation safety staff.

26. The licensee shall minimize dispersal of dust from the ore piles by water sprinkling or other dust suppression techniques, unless a documented weekly inspection indicates that the moisture content of the ore and/or weather conditions are controlling dusting.

27. The air sampling program shall include the collection of air samples during cleanup and maintenance operations as well as during normal operating conditions to demonstrate that employee exposures to airborne radioactivity concentrations are maintained as low as reasonably achievable in accordance with Section 20.1(c) of 10 CFR 20.

28. Radiation monitoring and sampling equipment shall be calibrated after repair and at least quarterly or at the manufacturer's suggested interval, whichever is sooner.

29. All mill radiological and environmental monitoring, bioassay, employee exposure evaluations, sampling, sample analysis, equipment calibration and related quality control programs shall be controlled by written procedure and shall be reviewed and revised every two years or as necessary by the mill Superintendent and the Radiation Safety Officer.

30. The licensee shall conduct monthly monitoring for Rn-222 daughter products as a part of the in plant radiological monitoring program. The locations for Rn-222 sampling shall be those specified in Table 5.5.2 of the licensee's revised Safety Analysis Report of August 28, 1975.

31. Before engaging in any activity not previously assessed by the NRC, the licensee shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not assessed, or that is greater than that assessed in the Final Environmental Statement (NUREG-0453), the licensee shall provide a written evaluation of such activities and obtain prior approval of the NRC for the activity.

32. Prior to disturbing any presently undisturbed soils for mill related activities (including borrow areas for tailings reclamation cover) in the future, the licensee shall have an archeological survey conducted of the site(s) to be disturbed. The Utah State Department of Development Services and the U.S. Department of the Interior shall be contacted by the licensee prior to the survey to provide assistance or comment in planning such a survey. The completed survey shall be submitted to the USNRC for review and NRC approval to proceed shall be obtained prior to any disturbance of presently undisturbed areas.

33. If unexpected harmful effects or evidence of irreversible damage not otherwise identified in NUREG-0453 dated January 1979 are detected during construction or operations, the licensee shall provide to the NRC an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.

34. The licensee shall insure that the automatic sprinkler system and the foam application system installed in the solvent extraction area are maintained in an operational condition to provide control over solvent fires in the storage tanks. In addition, the licensee shall insure that personnel involved in operational or emergency duties in the solvent extraction system area are trained in the operation of the emergency systems installed.

35. Release of equipment or packages from the restricted area shall be in accordance with Annex C, "Guidelines for Decontamination of Facilities and

Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material" dated November 1976 (enclosed).

36. Dikes shall be constructed around all hazardous chemical storage tanks to prevent spread of chemicals in case of spillage and shall be maintained and emptied as required, to assure they are effective.

37. Notwithstanding the provisions of Section 5.5.5.1 of the licensee's safety analysis report revised August 28, 1975, the licensee shall implement the environmental monitoring programs specified in Table 6.4 of NUREG 0453.

38. The licensee shall maintain sufficient records to furnish evidence of compliance with the radiological and environmental surveys and controls required by this license. Unless otherwise specified in NRC regulations, all such documentation shall be maintained for a period of at least five years.

39. Notwithstanding the Yellowcake Stack Sampling procedures of Table 4.1-4 of the Licensee's Safety Analysis Report revised August 28, 1975, or the semi-annual frequency requirements of Table 6.4 of NUREG 0453, the licensee shall conduct isokinetic sampling of the yellowcake drying and packaging stacks quarterly to determine U_{NAT}, RA-226 and Th-230 emissions.

40. The licensee shall conduct an annual survey of land use (grazing, residences, wells, etc.) in the area within two miles of the mill and submit a report of this survey annually to the Uranium Mill Licensing Section, U.S. NRC, Washington, D.C. 20555. This report shall indicate any differences in land use from that described in the licensee's Environmental Report of August 31, 1973, and supplements or the previous annual report. The first annual report shall be submitted by March 1980, and by March each year thereafter.

41. The licensee shall conduct a monitoring program to determine if small animals on the mill site have experienced a buildup of arsenic in their edible tissues. If elevated arsenic levels, compared to animals from background locations are found in small mammals on the site, the licensee shall analyze the potential impacts to raptors which may prey on the animals from the site and provide a report to the NRC, that addresses the arsenic levels found, the predicted impacts, and monitoring and other measures required to mitigate any impacts to local raptor populations.

42. The licensee shall compare the quarterly results of chemical and radiological analysis of the ground water down gradient from the tailings impoundment semi-annually to determine if identifiable trends of increasing

contamination exist down gradient from the impoundment. A report of the comparison including copies of the data used will be included in the environmental data required by condition 43 of this license.

43. The results of the effluent and environmental monitoring program required by this license shall be reported in accordance with 10 CFR 40, Section 40.65 with copies of the report sent directly to the U.S. NRC, Washington, D.C. 20555. In addition, the report shall also include a correlation of environmental radon monitoring data with meteorological data (wind speed and direction) during the time of sampling.

44. The licensee shall conduct a special survey program to determine the magnitude and location of fugitive tailings dust deposition due to past operations at the Moab mill site. The licensee shall measure gamma radiation levels in each of eight compass directions from the tailings pond at intervals of fifty meters or less, until exposure rates in air from the soil surface are below about 20 μ R/hr above background at one meter. The licensee shall submit the results of this survey with a plan for cleanup of contaminated areas offsite within twelve months of issuance of this renewal license.

45. Operations shall be immediately suspended in the affected areas of the mill if any of the emission control equipment for the ore feed or the yellowcake drying or drumming areas specified in the licensees submittal dated April 20, 1978, is inoperative.

Date April 23, 1979

For the U. S. Nuclear Regulatory Commission

Division of Fuel Cycle and
Material Safety
Washington, D.C. 20555